

1 36698/JFO/B600

CLAIMS

5 What is claimed is:

1. A communication device, comprising:

10 a. a transceiver (PHY) communicating data packets with a link partner according to a selectable communication protocol, the PHY having a data register therewithin, the data register receiving data representative of the selectable communication protocol; and

15 b. a media access controller (MAC) adapted for use in a packet-based communication network and operably coupled with the transceiver, the media access controller lacking a data register for receiving data representative of the selectable communication protocol.

20 2. The communication device of claim 1, wherein the PHY is integrally coupled with the MAC.

3. The communication device of claim 2, wherein the PHY and the MAC are integrated on a monolithic VLSI component.

25 4. The communication device of claim 1, wherein the predetermined communication protocol is a protocol defined by an IEEE Standard 802.3 communication protocol.

30 5. The communication device of claim 4, wherein the IEEE Standard 802.3 protocol includes a 10Base-T communication protocol and a 100Base-T communication protocol.

35

1 36698/JFO/B600

6. The communication device of claim 5, wherein the
100Base-T communication protocol includes a 100Base-T4
5 communication protocol, a 100Base-TX communication protocol, a
100Base-FX communication protocol, and a 100Base-T2 communication
protocol.

7. The communication device of claim 5, wherein the IEEE
10 Standard 802.3 protocol is one of a full-duplex communication
protocol and a half-duplex communication protocol.

8. The communication device of claim 5, wherein the PHY
and the MAC are integrally coupled on a monolithic VLSI
15 component.

9. The communication device of claim 5, wherein the IEEE
Standard 802.3 communication protocol includes an autonegotiation
communication protocol, and wherein the device further comprises
20 an autonegotiation controller, operably coupled to the data
register, the autonegotiation controller selecting the selectable
communication protocol.

10. The communication device of claim 9, wherein the data
25 representative of the selectable communication protocol include
autonegotiation state data.

11. The communication device of claim 10, wherein the data
register is a link partner capability register.

30

12. The communication device of claim 8, further comprising
a plurality of PHY and a plurality of MAC, each PHY having a MAC
uniquely corresponding therewith.

35

13. The communication device of claim 12, wherein the IEEE
Standard 802.3 communication protocol includes an autonegotiation
communication protocol, and wherein the device further comprises
an autonegotiation controller corresponding with each of the
plurality of PHY, the autonegotiation controller being operably
coupled to the data register, the autonegotiation controller
selecting the selectable communication protocol.

14. The communication device of claim 13, wherein the data
register is a link partner capability register.

15. A communication network, comprising:

a. a transceiver (PHY) communicating data packets
through a communication network according to a selectable
communication protocol, the PHY having

(1) a PHY controller controlling the selectable
communication protocol of the communication network, and

(2) a state data register storing data
representative of a state of the selectable communication
protocol;

b. a media access controller (MAC), operably coupled
with a first communication system, the MAC being integrably
coupled with the PHY, the MAC lacking a state data register
corresponding with the state data register in the PHY;

c. a link partner operably coupled with a second
communication system, the link partner cooperating with the PHY
controller to select the selectable communication protocol; and

d. a communication channel, operably coupling the PHY
with the link partner.

16. The communication network of claim 15, wherein the PHY
and the MAC are integrated on a monolithic VLSI component.

1 36698/JFO/B600

17. The communication network of claim 16, wherein the
selectable communication protocol is a protocol defined by an
5 IEEE Standard 802.3 communication protocol.

18. The communication network of claim 17, wherein the IEEE
Standard 802.3 protocol includes a 10Base-T communication
protocol and a 100Base-T communication protocol.

10

19. The communication network of claim 18, wherein the
100Base-T communication protocol includes a 100Base-T4
communication protocol, a 100Base-TX communication protocol, a
100Base-FX communication protocol, and a 100Base-T2 communication
15 protocol.

15

20. The communication network of claim 18, wherein the IEEE
Standard 802.3 protocol is one of a full-duplex communication
protocol and a half-duplex communication protocol.

20

21. The communication network of claim 18, wherein the IEEE
Standard 802.3 communication protocol includes an autonegotiation
communication protocol, and wherein the PHY controller further
comprises an autonegotiation controller, operably coupled to the
25 data register, the autonegotiation controller selecting the
selectable communication protocol.

25

22. The communication network of claim 17, wherein the data
representative of the selectable communication protocol include
30 autonegotiation state data.

30

23. The communication network of claim 22, wherein the data
register is a link partner capability register.

35